REMARKS/ARGUMENTS:

Minor changes are made to this specification. Claims 4, 7-10, and 14 are canceled without prejudice. Claims 1, 11-13, 15, 16, 18, and 31 are amended. Support for the amendment to claim 1 can be found in original claims 2, 4, 7-10 and at p. 46, line 19-p. 47, line 7 of Applicant's specification. Claims 1, 3, 5, 6, 11-13, and 15-32 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

The present invention relates to a pressure sensor device to be used for monitoring an air pressure in a tire, which detects pressure fluctuations of gas or liquid and transmits electrical signals. (Applicant's specification, at p. 1, lines 4-7).

CLAIM REJECTIONS UNDER 35 U.S.C. § 102:

Claims 1 and 3-32 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Schmidt et al. (U.S. Patent No. 4,295,102). This rejection is moot with respect to claims 4, 7-10, and 14 due to the cancellation of these claims. Applicant respectfully traverses this rejection as to claims 1, 3, 5, 6, 11-13, and 15-32. Claim 1, as amended, is as follows:

> A pressure sensor device comprising:
>
> a supporting substrate;
>
> a sensor substrate made of a piezoelectric material, having a lower surface on which a sensor section for detecting pressure is formed;
>
> a concave portion formed on the upper surface of the sensor substrate; and
>
> a sealing member that is joined to an upper surface of the supporting substrate and the lower surface of the sensor substrate and

forms a sealing space for sealing the sensor section between the substrates,

the sensor section being provided with a first surface acoustic wave element for detecting pressure by forming an IDT electrode on the lower surface of the sensor substrate within a region where the concave portion is formed at a plan view, and with a second surface acoustic wave element for reference for comparing output signals of the first surface acoustic wave element and the second surface acoustic wave element on the lower surface of the sensor substrate positioned in a region out of the concave portion at a plan view, wherein a frequency band from a resonance frequency to an antiresonance frequency of the first surface acoustic wave element and a frequency band from a resonance frequency to an antiresonance frequency of the second surface acoustic wave element do not overlap each other, and

further comprising:

a first oscillating circuit that oscillates at a predetermined frequency based on the resonance frequency of the first surface acoustic wave element or based on delay time of an electrical signal generated by the first surface acoustic wave element;

a second oscillating circuit that oscillates at a predetermined frequency based on the resonance frequency of the second surface acoustic wave element based on delay time of an electrical signal generated by the second surface acoustic wave element;

a difference generating circuit that generates and outputs a conversion signal by comparing an oscillation signal from the first oscillating circuit with an oscillation signal from the second oscillating circuit; and

a modulation circuit that modulates the conversion signal from the difference generating circuit and the oscillation signal from the second oscillating circuit and outputs these to the outside.

Applicant respectfully submits that Schmidt cannot anticipate or render claim 1 obvious, because Schmidt fails to teach or suggest "the sensor section being provided with a first surface acoustic wave element for detecting pressure by forming an IDT electrode on the lower surface of the sensor substrate within a region where the concave portion is formed at a plan view, and with a second surface acoustic wave element for reference for comparing output signals of the first surface acoustic wave element and the second surface acoustic wave element on the lower surface of the sensor substrate positioned in a region out of the concave portion at a plan view, wherein a frequency band from a resonance frequency to an antiresonance frequency of the first surface acoustic wave element and a frequency band from a resonance frequency to an antiresonance frequency of the second surface acoustic wave element do not overlap each other."

It is an aspect of the present invention that the piezoelectric materials of the surface acoustic wave element 2 for detecting pressure and the surface acoustic wave element 3 for reference have the resonance frequencies (fr) at which the insertion loss becomes minimum, and antiresonance frequencies (fa) at which the insertion loss becomes maximum as shown in the graph of Fig. 14, and satisfy the relationship of fr<fa. Therefore, the formulas (1) and (2) mean setting of the resonance frequencies and antiresonance frequencies so that the frequency band (fr2 to fa2) from the resonance frequency fr2 to the antiresonance frequency fa2 of the surface acoustic wave element 2 for detecting pressure and the frequency band (fr3 to fa3) from the resonance frequency fr3 to the antiresonance frequency fa3 of the surface acoustic wave element 3 do not overlap each other. (Applicant's specification, at p.46, line 19-p. 47, line 7). Satisfying the above criteria has the

advantageous effect of reducing interference of the carrier of the first surface acoustic wave element and the carrier of the second surface acoustic wave element. (Applicant's specification, at p. 47, line 8-p. 48, line 1).

In contrast, Schmidt teaches a surface acoustic wave (SAW) sensor in which two SAW elements 7, 10 provided on the two substrates 6, 11 are facing each other and sealed with a fit ring 12. (Schmidt, Figure 3). The relationship between the two resonance frequencies of the two SAW elements 7, 10 is given as "radio frequency energy is coupled from one oscillator to the other through the aforementioned capacitance existing between the arrays." (Schmidt, column 6, lines 60-64). Schmidt fails to teach or suggest a relationship of the resonant frequencies of the SAW elements 7, 10 in which the resonant frequencies are different from one another, as is required by the present invention

Furthermore, according to the structure of Schmidt's sensor, each of the SAW elements 7, 10 is provided on two different substrates 6, 10. Therefore, even if the resonance frequencies were the same as each other, leakage of spurious surface acoustic wave would not appear in the frequency band of the other SAW element. Thus, the one SAW element would not affect the other SAW element. In view of the foregoing, Applicant respectfully submits that a person of ordinary skill in the art would not be motivated to make the two resonant frequencies of the two SAW elements 7, 10 different from one another, as is required by the present invention.

In light of the foregoing, Applicant respectfully submits that Schmidt cannot anticipate or render claim 1 obvious, because Schmidt fails to teach or suggest each and every claim limitation. Claims 1, 3, 5, 6, 11-13, and 15-32 depend from claim 1 and cannot be anticipated or rendered obvious for at least the same reasons as claim 1. Withdrawal of this rejection is thus respectfully requested.

Applicant believes the foregoing amendments comply with requirements of form and thus may be admitted under 37 C.F.R. § 1.116(b). Alternatively, if these

amendments are deemed to touch the merits, admission is requested under 37 C.F.R. § 1.116(c). In this connection, these amendments were not earlier presented because they are in response to the matters pointed out for the first time in the Final Office Action.

Lastly, admission is requested under 37 C.F.R. § 1.116(b) as presenting rejected claims in better form for consideration on appeal.

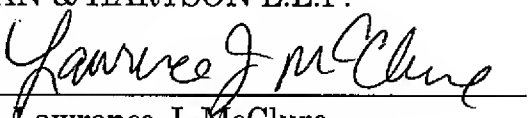
In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 785-4600 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

Date: January 30, 2008

By: 
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